

## CLAIMS:

1. A communications receiver, comprising a pulse detection unit, for detecting pulses in a received signal, the pulse detection unit comprising:
  - a plurality of comparators;
  - a sampling time generator, for generating signals indicative of a plurality of
  - 5 sampling time points; and
  - a reference level generator, for generating a plurality of reference levels, wherein each of the comparators is programmable with a sampling time point selected from said plurality of sampling time points and with a reference level selected from said plurality of reference levels, and
  - 10 wherein the received signal is applied to each of the comparators such that each of the comparators produces a respective output signal based on a comparison between the received signal level and the selected reference level at the selected sampling time point.
2. A communications receiver as claimed in claim 1, comprising a signal
- 15 processor, for detecting pulses in the received signal based on the output signals from the comparators.
3. A communications receiver as claimed in claim 2, wherein the signal
- 20 processor is adapted to program the comparators with respective selected sampling time points and reference levels, in order to detect said pulses.
4. A communications receiver as claimed in claim 1, 2 or 3, comprising a pre-amplifier, for pre-amplifying the received signal to an appropriate level for comparison with the plurality of reference levels.
- 25 5. A communications receiver as claimed in claim 1, 2 or 3, wherein the reference level generator is adapted to scale the generated plurality of reference levels for comparison with the received signal.

6. A communications receiver as claimed in any preceding claim, further comprising a current reference, for driving bias currents to said plurality of comparators.

7. A method of detecting pulses received in a communications receiver, the  
5 method comprising:  
generating signals indicative of a plurality of sampling time points;  
generating a plurality of reference levels;  
programming each of a plurality of comparators with a sampling time point  
selected from said plurality of sampling time points and with a reference level selected from  
10 said plurality of reference levels, and  
applying the received signal to each of the comparators such that each of the  
comparators produces a respective output signal based on a comparison between the received  
signal level and the selected reference level at the selected sampling time point.

15 8. A method as claimed in claim 7, comprising detecting pulses in the received  
signal based on the output signals from the comparators.

9. A method as claimed in claim 7 or 8, comprising pre-amplifying the received  
signal to an appropriate level for comparison with the plurality of reference levels.

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10. A method as claimed in claim 7 or 8, wherein comprising scaling the  
generated plurality of reference levels for comparison with the received signal.

11. A method as claimed in one of claims 7-10, comprising programming the  
25 comparators with respective selected sampling time points and reference levels, based on  
knowledge about the possible shapes of said pulses.

12. A method as claimed in one of claims 7-11, comprising programming the  
comparators with respective selected sampling time points and reference levels, based on  
30 knowledge about the expected arrival times of said pulses.